Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

Langan
Suite 200
2700 Kelly Road
Warrington PA 18976

215-491-6500

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 982662. Samples arrived at the laboratory on Wednesday, March 22, 2006. The PO# for this group is PHILADELPHIA REFINERY.

Client Description	Lancaster Labs Number
Trip Blank Water Sample	4734411

ELECTRONIC COPY TO	SUN: Aquaterra Tech.	Attn: Brad Spancake
ELECTRONIC COPY TO	Langan	Attn: Jason Hanna
ELECTRONIC COPY TO	Langan	Attn: Joseph Catricks

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Analysis Report

Questions? Contact your Client Services Representative
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,

Robin C. Runkle
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4734411

Trip Blank Water Sample
SUN: Philadelphia Refinery AOF-6

Collected: n.a.

Account Number: 10132

Submitted: 03/22/2006 16:15
Reported: 03/31/2006 at 10:21
Discard: 05/01/2006

Langan
Suite 200
2700 Kelly Road
Warrington PA 18976

TBAF6

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	< 5.	5.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02302	UST-Waters by 8260B	SW-846 8260B	1	03/27/2006 11:03	Emiley A King	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/27/2006 11:03	Emiley A King	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Quality Control Summary

Client Name: Langan Group Number: 982662
Reported: 03/31/06 at 10:21 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T060861AA	Sample number(s): 4734411								
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	99	98	73-119	1	30
Benzene	< 5.	5.	0.5	ug/l	101	100	85-117	0	30
1,2-Dichloroethane	< 5.	5.	1.	ug/l	110	109	77-132	2	30
Toluene	< 5.	5.	0.7	ug/l	95	96	85-115	1	30
1,2-Dibromoethane	< 5.	5.	1.	ug/l	100	98	81-114	1	30
Ethylbenzene	< 5.	5.	0.8	ug/l	97	95	82-119	2	30
Isopropylbenzene	< 5.	5.	1.	ug/l	104	103	80-120	0	30
Xylene (Total)	< 5.	5.	0.8	ug/l	97	97	83-113	0	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: T060861AA	Sample number(s): 4734411 UNSPK: P734856								
Methyl Tertiary Butyl Ether	102		69-127						
Benzene	109		83-128						
1,2-Dichloroethane	115		70-143						
Toluene	101		83-127						
1,2-Dibromoethane	101		78-120						
Ethylbenzene	103		82-129						
Isopropylbenzene	112		81-130						
Xylene (Total)	104		82-130						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: UST-Waters by 8260B
Batch number: T060861AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4734411	95	94	94	96
Blank	98	94	95	97
LCS	97	95	95	100
LCSD	96	96	95	98
MS	97	97	96	99

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Analysis Report

Quality Control Summary

Client Name: Langan Group Number: 982662
Reported: 03/31/06 at 10:21 AM

Surrogate Quality Control

Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only

Acct. # 10132 Group# 982659 Sample # 4734387-95

982662 / 4734411

COC # 0104804

Please print. Instructions on reverse side correspond with circled numbers.

(1)

Client: Sun - Aguaterra / Langan Acct. #:

Project Name/#: Sun - Philadelphia Refinery AOF-5 PWSID #:

Project Manager: B. Spancake / J. Hanna (Langan) P.O.#:

Sampler: M. Brad Spancake Quote #:

Name of state where samples were collected: PA

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water	Other	Total # of Containers	(5) Analyses Requested: 8260B BTEX, MTBE, Cumene + EDC, EDB; 8270C Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, 1-Methylnaphthalene, 2-Methylnaphthalene, Naphthalene, Phenanthrene, Pyrene, Total Lead	Remarks	(6) Temperature of samples upon receipt (if requested)
BH-B156-032006-1-1.5	3/20/06	0845	X					4		MeOH vial 6643	
BH-B155-032006-1.5-2	3/20/06	0920	X					4		MeOH vial 6638	
BH-20-06-032006-1-1.5	3/20/06	1320	X					4		MeOH vial 6642	
BH-21-06-032006-1.5-2	3/20/06	1400	X					4		MeOH vial 6637	
BH-23-06-032006-1-1.5	3/21/06	0900	X					4		MeOH vial 6636	
BH-24-06-032106-1-1.5	3/21/06	1025	X					4		MeOH vial 6641	
BH-25-06-032106-1-1.5	3/21/06	1100	X					4		MeOH vial 6640	
BH-22-06-032106-1.5-2	3/21/06	1215	X					4		6635	
BH-29-06-032106-1.5-2	3/21/06	1310	X					4		6639	

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed:

Rush results requested by (please circle): Phone Fax E-mail

Phone #: Fax #:

E-mail address:

(8) **Data Package Options** (please circle if required)

QC Summary | Type VI (Raw Data) | SDG Complete? Yes No

Type I (Tier I) | GLP

Type II (Tier II) | Other

Type III (NJ Red. Del.)

Type IV (CLP)

Site-specific QC required? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
M. Brad	3/24/06	1700	AT BRIDGE	3/24/06	1700
AT BRIDGE	3/22/06	1020	[signature]	3/22/06	1020
[signature]	3/22/06	1020	Marvin McCollister	3/22/06	10:20
Marvin McCollister	3/22/06	1615			
	Date	Time	[signature]	3/22/06	1615

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102 Rev. 10/27/02

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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